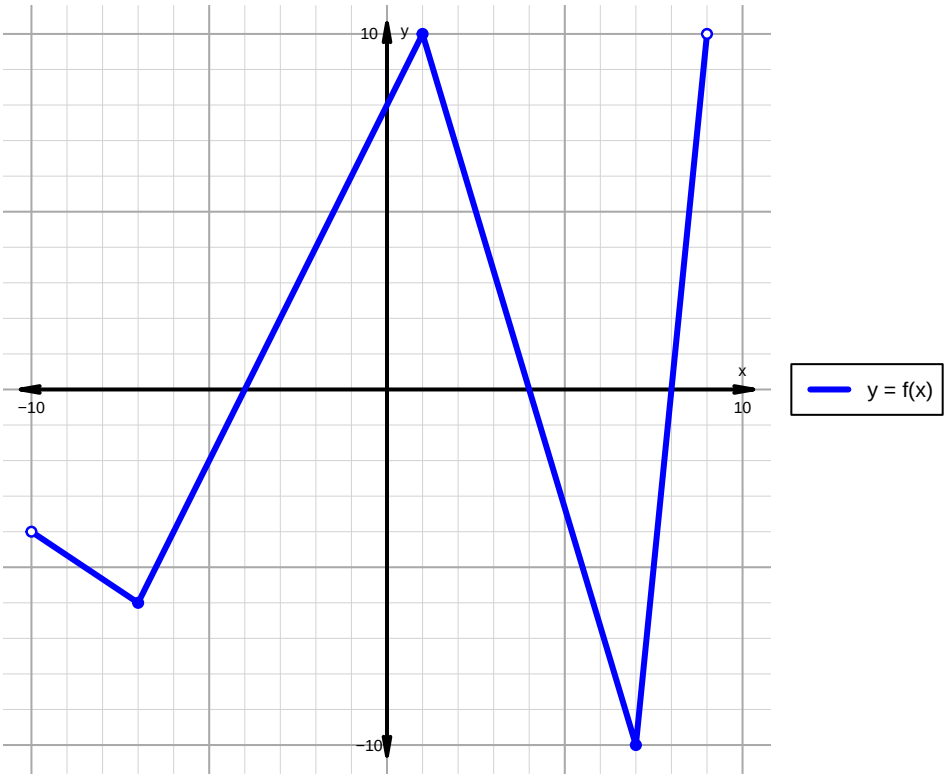
Name: Date:

Intervals, Transformations, and Slope Solution (version 83)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-4, 4) \cup (8, 9)$
Negative	$(-10, -4) \cup (4, 8)$
Increasing	$(-7, 1) \cup (7, 9)$
Decreasing	$(-10, -7) \cup (1, 7)$
Domain	$(-10, 9)$
Range	$(-10, 10)$

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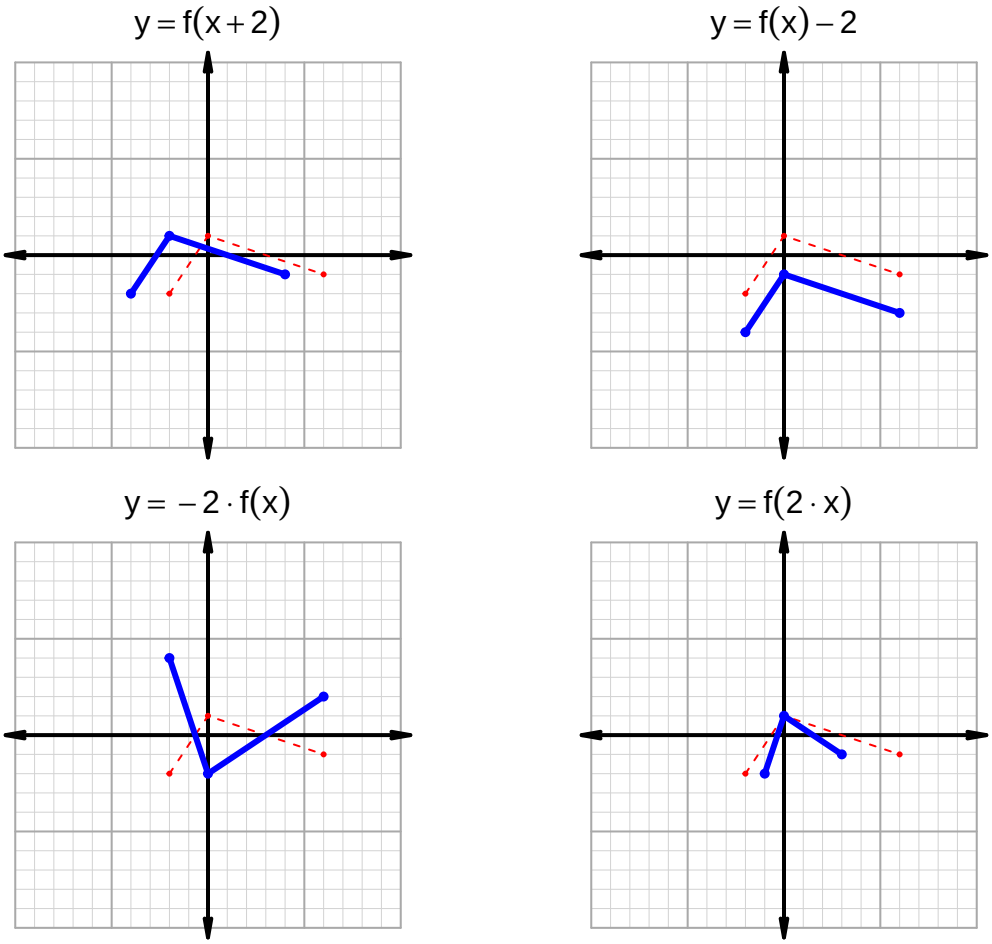
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 36$ and $x_2 = 54$. Express your answer as a reduced fraction.

x	$g(x)$
31	36
36	58
54	31
58	54

$\frac{g(54)-g(36)}{54-36} = \frac{31-58}{54-36} = \frac{-27}{18}$

The greatest common factor of -27 and 18 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-3}{2}$$